

'They forget that this arises from the course of investigation which we have pursued. We have attempted to solve the highest and most difficult problems, without a knowledge of the very data of the science. What was astronomy, so long as its cultivators employed themselves in developing its more intricate and eomplete phenomena? The motions of the stars, beings that seemed instinct with life, were involved in cycles and epieyles; the appearanee of a comet struck terror into nations, and the oecurrenee of an eelipse was the harbinger of the dissolution of empires. But Newton began with investigating the fall of an apple to the ground; and, traeing up the eonditions of that humble experiment, finally reduced all these intricate gyrations to simple laws, and showed that these complex evolutions were the result of a harmonious motion. So, too, physiology must begin with the philosophy of pore action: the doetrines of echange by presenee must be developed, the aetion of tubal systems must be discovered; and then, and not before then, it will take rank as an exaet seienee.

*Hamptden Sidney College, Prince Edward Co., Va., Sept. 1837.*

ART. VIII.—*Case of Worms in the Urinary Bladder.* By HARVEY CAMPBELL, M. D., of Johnstown, Windham county, Conn.

I am induced to offer the particulars of the following remarkable ease for publication, from having notieed in the thirty-ninth number of this Journal, the details of a somewhat similar case by Dr. Brigham of Hartford, wherein he asks, "are not sueh eases more frequent than is generally supposed?" In July, 1825, I was called to visit Mr. John Hunter of this town, aged 67, who for three or four years had been affected with slight and oeeasional interruptions to the flow of urine, which, for the last few weeks, had increased in severity, causing great pain in evacuating the bladder, and whieh now amounted to an entire obstruction. Until the time I visited him, he had taken nothing but a few domestic remedies of his own preseribing, which, until very lately, had procured relief. I immediately evacuated the bladder by means of the eatheter, and, on withdrawing it, I observed a very small red-headed worm sticking to the end of the instrument. This worm was about half an inch in length; its body was made up of numberless minute cartilaginous rings, and supplied with a number of legs, arranged in two distinct rows from one extremity to the other. The catheter was employed, daily, for about three weeks,

during which time some thirty worms of the above description were passed, some through the instrument, others were found sticking to it when withdrawn, and a few were observed to pass the urethra, after the use of the catheter was dispensed with. By the regular daily evacuation of urine, and an appropriate use of the terebinthines, in about one month the bladder was apparently divested of its vermicular occupants, and restored to its former healthful tone and action. This case is less calculated to excite our wonder from the consideration, merely, that worms inhabited the bladder, than from the reflection that this viscus, and its contained urine, so apparently unfitted for such an occupancy, that it will almost stagger credulity herself to believe the fact, should become tenanted with animals of the description here given. These worms belong to a hardy race. They were hard, very active, strong and wonderfully tenacious of life. Nitric acid would destroy them in two minutes, but they would retain all their activity and energy when immersed in oil of turpentine for the space of two hours. I enclosed two of them in a quill which I carried in my pocket, intending to ascertain the length of time they would live in such a medium. At the end of four weeks they were as lively and vigorous as ever, but how much longer they would have thus lived I have no means of knowing, for while exhibiting them to a friend in the open air they were blown away by the wind and lost, and here my experiment terminated.

I am not aware that there are many cases of worms in the urinary bladder on record. That worms of the description here given should exist in that organ and be capable of surviving for such a length of time in so many different and adverse media, some of which are apparently the least capable of sustaining life, must be new to many members of the profession. Indeed, it almost surpasses belief that a worm generated in the bladder and existing in the urine, which must be considered its most natural element, should be capable of retaining life and vigour for the space of four weeks, when enclosed in a quill containing nothing but atmospheric air. Nature seems to have departed from her ordinary rules in this and similar anomalous cases, and we are left to wonder and admire at what we cannot elucidate or explain. I am not naturalist enough to designate the genus or species to which these worms belong in the animal creation, but I very much doubt whether worms of a like character have ever before been known to generate or exist in the living human system. But although they have not been *known* to exist, still they may have existed frequently and passed away unobserved; and in the case before us, had it not been for the necessity of employing the catheter, these

same worms might, from their diminutiveness, have passed off unobserved. It will be observed that in this case and all others upon record, where worms have been found in the bladder, that symptoms like those of stone have prevailed,—irritation at the neck of bladder, difficulty and pain in making water, and in the case of my patient, a total obstruction of urine. A diseased condition of one or more of the urinary organs is undoubtedly requisite to the formation of worms. The diagnosis must be obscure and difficult, and cannot be determined except by ocular demonstration.

I should consider the prognosis favourable and the therapeutic indications simple. Dr. Brigham attributes the removal of the worm, in the case detailed by him, to "the disturbance of it by the repeated and thorough examination of the bladder which he made a few days before it passed." To the same cause, more than any other, do I attribute the removal of the worms in the case of my own patient, as the catheter was employed daily, and no other means made use of, excepting that diuretics was administered, consisting chiefly of bals. copaiivi. Independently of the supposition which I believe and adopt, that the worms were originally formed in the neck of the bladder, the position of this viscus, with the aid of gravity and the frequent passage of the urine, all contributed towards concentrating them at this point, where, by the repeated introduction of the catheter, they were disturbed and loosened from their attachments, to be carried off with the urinary discharge.

In an obstinate case, injections of oil of turpentine, or some other perturbing liquid, frequently thrown into the bladder, as was practised in the case detailed by Mr. Lawrence in the *Medico-Chirurgical Transactions*, would undoubtedly hasten the removal of the worms.

Although the urinary bladder would seem to be a very unnatural location for worms, and the urine, from its chemical properties, would appear to be a medium very inauspicious to their growth and development, yet as they have been known to exist there, and to have caused symptoms like those of gravel and stone, and been productive of inflammation, irritation and spasm, in the neck of the bladder, &c.; add to this the consideration that worms, especially small ones, may be evacuated from the bladder without the knowledge of the patient himself, or, if known to him, the fact may still be unknown to his physician or any one else; and in the case related by Dr. Brigham, there is no evidence from the account that his patient made any one acquainted with the fact, that two worms were once expelled from her bladder, until twenty-one years afterwards, when she expelled a third, but for which, one case at least of this rare and singular malady

would have never been reported. Add to these considerations likewise the fact, that within a period of twelve years two cases of this disease have been detected in a single state, one by Dr. Brigham and the other by myself; and I think we are fully warranted in the belief that this disease is more frequent than is generally supposed.

The profession in this country are generally too negligent in making reports of anomalous and instructive cases. There is no physician of experience, from Passamaquoddy to St. Mary's, who has not met with many cases of disease, which, if correctly reported, could not fail of advancing the interests and usefulness of the whole fraternity.

*Voluntown, Conn., Aug. 24th, 1837.*

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ART. IX. *Case of Rupture of the Urethra without external wound.*  
By SAMUEL WEBBER, M. D., of Charlestown, N. H.

I was requested, on the 6th of May, 1829, to visit E. Harlow, a farmer in the adjoining town of Springfield, Vt., and to take with me some catheters of different sizes. Upon my arrival at the place, I found Drs. Cobb and Crane in attendance, and learned from them that the patient, on the afternoon before, while standing upon the top of a rail fence, had slipped and fallen with a leg on each side of the fence, receiving a severe bruise in the perineum. He had not passed water since, and was now suffering severely from the retention.

Upon examination I found the scrotum and perineum somewhat swollen and discoloured, with much tenderness. I selected a middle sized catheter and attempted to introduce it into the bladder. After passing it a little beyond the arch of the pubis, the passage was impeded, and it required considerable manœuvring to overcome the difficulty. I was finally successful, though when the instrument passed on it conveyed a sensation as if it was passing through some soft mass like coagulated blood, instead of along a free channel. Farther on, near the neck of the bladder, the difficulty was renewed, and being fatigued by a hurried ride and long stooping over the patient, I committed the instrument to Dr. Crane, who, after a little while, succeeded dexterously in passing it into the bladder. The urine was freely evacuated, and the patient appeared much relieved. Agreeing with his attendants upon the propriety of the antiphlogistic treatment proposed, and leaving the catheter with them for future use, I then took my leave.